



FDF ISS Orbit Determination

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Background

- FDF uses ISS TDRS 1-way Doppler tracking data to determine the ISS local oscillator frequency.
- FDF analysts determined that the ISS oscillator was stable enough for use in accurate ISS orbit determination.
- During the August 2000 NSG meetings, FDF analysts proposed to the ISS TOPOs that FDF orbit solutions be used for ISS Space Network acquisition data generation.
 - TOPOs agreed to examine the issue and work towards a joint study/verification phase.
- Verification test occurred in September 2001.
 - The results verified that FDF orbit solutions are adequate for SN acquisition data generation.



Status

- Test results were presented to ISS Flight Directors, the TDRS Network Director, and management.
- SN acquisition data update procedures were agreed to by FDF and TOPO personnel.
 - These procedures are very similar to FDF support for other spacecraft.
 - These procedures were used successfully for the verification test.
 - FDF and TOPOs will maintain the close working relationship and data sharing/verification procedures that have been developed over the past several years.
- FDF and TOPOs are ready to implement the new procedures.